

NOTES ON THE GENUS *CLERODENDRUM* (VERBENACEAE). XXXII

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CLERODENDRUM Burm.

Additional & emended bibliography: Oliv., Trans. Linn. Soc. Lond. 29: 132--133, pl. 89. 1875; Pulle in Lorentz, Nova Guinea, ser. 1, 8: 402--403 (1910) and ser. 1, 8: 687. 1912; Lévêillé, Fl. Kouy-Tchéou 441--442. 1915; Menninger, Stuart News p. 4, Jan. 11. 1945; W. Trelease, Wint. Bot., ed. 3, imp. 2, 331. 1967; Prasad, Mehta, & Dave, Biol. Pl. Prague 26: 321--326. 1984; Prasad, Mehta, & Dave, Biol. Abstr. 79: AB.838. 1985; Mold., Phytologia 62: 78--86. 1987.

CLERODENDRUM LONGIPETIOLATUM Gürke

Additional bibliography: Mold., Phytologia 62: 86. 1987.

Lower bracts lanceolate, to 5 cm. long, apically acute, basally narrowed into the stipe, the upper ones linear or subulate, 2--3 mm. long; pedicels elongate; calyx campanulate, 6--7 mm. long, subglabrous, 5-parted to below the middle, the lobes narrowly lanceolate, apically long-acuminate or caudate, longer than the tube; corolla hypocrateriform, the tube 1.5--1.8 cm. long, 2--2½ times the length of the calyx, externally glabrous.

This species is based on *Stuhlmann* 71 from Mrgero, Ukami, Zanzibar, collected on May 18, 1890, and deposited in the Berlin herbarium, now unfortunately destroyed.. It should be noted that Baker (1900) reverses the bract description, asserting that it is the lower bracts that are linear and the upper that are lanceolate; Gürke's (1893) original description is the more accurate. Gürke's reference is sometimes erroneously dated as "1894", the titlepage date.

The species is a member of the Subgenus *Euclerodendrum* (Schau.) Thomas, Section *Oxycalyx* Thomas, Subsection *Acuminata* Thomas. A key to help distinguish it from related African species will be found under *C. dinklagei* Gürke in the present series of notes [59: 254--255]. The later homonymous *C. longipetiolatum* P'ei is now known as *C. peii* Mold., which see.

Nothing is known to me of *C. longipetiolatum* Gürke beyond what is stated in its bibliography. Thomas (1936) knew it only from the type collection.

CLERODENDRUM LONGISEPALUM Dop in Lecomte, Notul. Syst. 4: 11--12 [as "*Clerodendron*"]. 1920; Mold., Known. Geogr. Distrib., Verbenac., ed. 1, 59 & 90. 1942.

Synonymy: *Clerodendron longisepalum* P. Dop in Lecomte, Notul. Syst. 4: 11. 1920.

Bibliography: Dop in Lecomte, Notul. Syst. 4: 11--11. 1920; A. W. Hill, Ind. Kew. Suppl. 6, imp. 1, 49. 1926; Fedde & Schust., Justs. Bot. Jahresber. 48 (1): 497. 1927; Dop in Lecomte, Fl. Gén. Indo-chine 4: 851 & 865--867, fig. 89 (3--7). 1935; Worsdell, Ind. Lond. Suppl. 1: 238. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 59 & 90

(1942) and ed. 2, 136 & 182. 1949; A. W. Hill, Ind. Kew. Suppl. 6, imp. 2, 49. 1959; Mold., Résumé 175, 427, & 451. 1959; Mold., Résumé Suppl. 1: 12 (1959) and 3: 19. 1962; Mold., Fifth Summ. 1: 300 (1971) and 2: 868. 1971; Mold., Phytologia 31: 395. 1975; Mold., Phytol. Mem. 2: 239, 291, 387, & 539. 1980; P. Hplmgren & al., Ind. Vasc. Pl. Type Microf. 441. 1985; Mold., Phytologia 60: 142. 1986.

Illustrations: Dop in Lecomte, Fl. Gén. Indo-chine 4: 865, fig. 89 (3--7). 1935.

A shrub, 1--3 m. tall; branchlets terete, puberulent, finally glabrous; bark reddish-brown; leaves decussate-opposite, fetid; petioles slender, 8--10 mm. long; leafblades membranous, elliptic or elliptic-oblong to ovate, about 8 cm. long and 2.5 cm. wide, apically acute or shortly acuminate, marginally irregularly serrate or sinuate-dentate to subentire, basally cuneate or attenuate, glabrous; secondaries 8 per side, slender; veinlets conspicuous; inflorescence paniculate, large, ample, 30--40 cm. long, 20 cm. wide, conspicuously foliose, puberulent; peduncles divaricate, 4 cm. long; bracts foliaceous; bractlets linear, 3--4 mm. long; cymes 5-flowered; flowers 3--4 cm. long; calyx obconic, 12--16 mm. long, externally sparsely pilose throughout, not accrescent in fruit, the tube 1.5 mm. long, the lobes slightly unequal, linear, 12--15 mm. long, 1.5 mm. wide, vittate, apically acute; corolla white, puberulent, the tube slender, 2.5--3 cm. long, the lobes ovate, 7--8 mm. long, apically obtuse; stamens exserted; filaments white; stigma shortly bifid; ovary truncate; fruit drupaceous, blackish-purple or black, 8 mm. wide, included by the erect fruiting-calyx lobes, composed of 2 pyrenes.

This species is based on *Pierre 5221* from Bien-Hoa, Cochinchina, *Colliard s.n.* from Kompong-Thom and *Lecomte & Finet 1804 & 1805* from Angkor, Cambodia, and *Harmand 17 & 38* from Bassim du Semoun and *Thorel 2767* from Kemarath, Laos. Dop (1920) comments that this species is "distincte de toutes les autres du genre par la form du calice". The Clemenses report it frequent along forest trails in Annam, describing it as a "beautiful undershrub". It has been collected in anthesis in August.

Fedde & Schuster (1927) cite all the original collections except that of Colliard.

A key to help distinguish this species from other Indochinese taxa will be found under *C. hahnianum* Dop in the present series of notes [60: 141--143].

Citations: VIETNAM: Annam: *Clemens & Clemens 4261* (Ca--339356). Cochinchina: *Pierre 5221* (B--cotype, Bz--72800--cotype, Ca--53730--cotype, F--photo of cotype, Ld--photo of cotype, N--cotype, N--photo of cotype, S--cotype, Sg--photo of cotype). LAOS: *Harmand s.n.* [Bassin du Se-Moun] (B--cotype). MOUNTED ILLUSTRATIONS: Dop in Lecomte, Fl. Gén. Indo-chine 4: 865, fig. 89 (3--7). 1935 (Ld).

CLERODENDRUM LUEMBENSE DeWild., Bull. Jard. Bot. Brux. 3: 267 [as "*Clerodendron*"]. 1911; B. Thomaš, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 84 & 94. 1936.

Synonymy: *Clerodendron luembense* DeWild., Bull. Jard. Bot. Brux.

3: 267. 1911. *Clerodendron luembensis* DeWild., Feddes Repert. Spec. Nov. 13: 145 sphalm. 1914. *Clerodendrum lumbuense* DeWild. ex Mold., Phytologia 59: 264 sphalm. 1986.

Bibliography: DeWild., Bull. Jard. Bot. Brux. 3: 267. 1911; De Wild., Feddes Repert. Spec. Nov. 13: 145. 1914; Fedde & Schust., Justs Bot. Jahresber. 40 (2): 335. 1915; Prain, Ind. Kew. Suppl. 5, imp. 1, 62. 1921; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 47, 84, & 94. 1936; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 47, 48, & 90 (1942) and ed. 2, 113, 115, & 182. 1949; Mold., Résumé 139, 141, 148, 150, & 451. 1959; Prain, Ind. Kew. Suppl. 5, imp. 2, 62. 1960; Mold., Fifth Summ. 1: 223, 229, 245, & 251 (1971) and 2: 868. 1971; Mold., Phytol. Mem. 2: 214, 219, 235, 240, & 539. 1980; P. Holmgren & al., Ind. Vasc. Pl. Type Microf. 441. 1985; Mold., Phytologia 59: 110, 264, & 350. 1986.

A subshrub; branches erect, to 5.5 cm. long, velutinous; leaves decussate-opposite or ternate; leafblades obovate, 6--12.5 cm. long, 2--4 cm. wide, apically more or less broadly cuneate, marginally denticulate or coarsely serrate near the apex, basally long-cuneate, glabrous on both surfaces; inflorescence terminal, paniculate, sparsely foliose; peduncles to 35 cm. long, short-tomentose; cymes 3-flowered, basally bracteolate; bractlets lanceolate or linear, about 2 mm. long, velutinous; pedicels to 4 mm. long, velutinous; calyx about 4 mm. long, 5-lobed, externally velutinous, the lobes not inrolled, sometimes somewhat overlapping, rounded, marginally ciliate, broadly ovate; corolla-tube about 8--9 mm long, the apex more or less hairy, the lobes marginally ciliate, otherwise glabrous; stamens and style exserted; stigma bilobed; ovary internally hairy.

The species is based on an unnumbered A. Hock collection from the valley of the small Luembe in Katanga, Zaire, collected sometime in 1910 and deposited in the Brussels herbarium. DeWildeman (1911) comments that it is a member of the Subgenus *Cyclonema*, in the affinity of *C. myricoides* (Hochst.) R. Br. and close to *C. katangense* DeWild. In his 1914 work he emphasizes its relationship with *C. corbisieri* DeWild., *C. erectum* DeWild., and *C. ringoeti* DeWild. Thomas (1936) cites only the original collection.

Collectors describe this plant as an herb, about 2 feet tall, or shrubby, to 7 feet tall, the stem thick, unbranched, to 1 m. tall. On Hornby 3720 the corollas are described as "white", while on Chapin 529 they are said to have been the "lowermost (central) petal light-purplish inside, but greenish in the mid-line, the rest of the flower light-green". The plant has been collected in anthesis in March and August. Hornby encountered it in sandy soil of "grasslands with woody elements". The Milne-Redhead collection, previously distributed as *C. discolor* var. *kilimandscharense* Thomas, had "the flowers all fallen, leaves young".

Citations: ZAIRE: Chapin 529 (N); Giorgi s.n. [Envir. Elisabethville, 1923] (Br); Hock s.n. [Luembe, Katanga, 1910] (Br--type, Ld--photo of type, N--fragment & photo of type); Quarré 2302 (Br). ZAMBIA: E. Milne-Redhead 625 (Br, F--photo, K, Ld--photo, N--photo, Sg--photo). MOZAMBIQUE: Mozambique: Hornby 3720 (Af).

CLERODENDRUM LUEMBENSE var. *ALBINERVUM* Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 84. 1936

Synonymy: *Clerodendrum luembense* var. *albinervium* Thomas ex Mold., Known Geogr. Distrib. Verbenac., ed. 1, 47 & 90 sphalm. 1942.

Bibliography: B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 84. 1936; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 47 & 90 (1942) and ed. 2, 113 & 182. 1949; Mold., Résumé 139 & 451. 1959; Mold., Fifth Summ. 1: 223 (1971) and 2: 868. 1971; Mold., Phytol. Mem. 2: 214 & 539. 1980.

According to Thomas (1936) this variety differs from the typical form of the species in having the "Blattnerven auf Unterseits fell behaart; ganze Behaarung weich, Haare nach rückwärts gekrümmt."

It is based on *Ledermann 3756* from Sagdasche, at 500--700 m. altitude, in the Sari Mountains, Cameroons, collected in May, 1909, and deposited in the Berlin herbarium, now destroyed. Thomas (1936) cites also *Ledermann 3911* & *3989* from the same locality.

Nothing is known to me of this taxon beyond what is stated in its meager bibliography (above).

CLERODENDRUM LUZONIENSE Merr., Philip. Journ. Sci. Bot. 20: 436 [as "*Clerodendron*"]. 1922; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 62 & 90. 1942.

Synonymy: *Clerodendron luzoniense* Merr., Philip. Journ. Sci. Bot. 20: 436. 1922.

Bibliography: E. D. Merr., Philip. Journ. Sci. Bot. 20: 436. 1922; E. D. Merr., Enum. Philip. Flow. Pl. 3: 403. 1923; A. W. Hill, Ind. Kew. Suppl. 7: 51. 1929; Fedde & Schust., Justs Bot. Jahresber. 53 (1): 1072. 1932; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 62 & 90 (1942) and ed. 2, 141 & 182. 1949; Mold., Résumé 183 & 451. 1959; Mold., Fifth Summ. 1: 316 (1971) and 2: 868. 1971; Mold., Phytol. Mem. 2: 306 & 539. 1980.

A glabrous, erect shrub; branches slender, pale; leaves decussate-opposite; petioles 2--5 cm. long; leafblades membranous, elliptic to oblong-elliptic, 13--18 cm. long, 6--7 cm. wide, apically rather slenderly acuminate, marginally entire, basally cuneate, somewhat olivaceous and shiny on both surfaces when dry or the lower surface somewhat paler, not glandulose; secondaries 6 or 7 per side, slender, rather prominent beneath; veinlet reticulation very loose; inflorescence terminal, paniculate, pedunculate, lax, few-flowered, glabrous or very slightly puberulent, the peduncle and rachis to 12 cm. long; inflorescence branches few, spreading, each usually 3-flowered; bracts linear, 4--6 mm. long, apically acuminate; bractlets similar, smaller; pedicels 1--1.6 cm. long; calyx green, 5--7 mm. long, basally cuneate, 5-lobed, the lobes lanceolate, about 3 mm. long, apically acuminate; corolla hypocrateriform, white, the tube slender, 5--6 cm. long, straight, the lobes spreading, oblong-elliptic, about 1 cm. long, apically obtuse.

This species is based on *Ramos & Edaño, Herb. Philip. Bur. Sci. 33784* from Paracale, Camarines Province, Luzon, Philippine Islands, collected between May and December. Merrill (1922, 1923) cites also *Ramos & Edaño, Herb. Philip. Bur. Sci. 33779* from Luzon and states

that this species is endemic to Luzon, inhabiting damp forests along small streams at low altitudes. It has been collected in anthesis in November and December. Merrill further comments that "The alliance of this species is manifestly with *C. klemmei* Elm., from which it is distinguished by its differently shaped, relatively much broader leaves, longer flowers, lax, few-flowered inflorescences, and narrower calyx teeth."

Material of *C. luzoniense* has been distributed in some herbaria as "*C. cfr. mindorense* Merr."

Citations: PHILIPPINE ISLANDS: Luzon: Ramos & Edano, *Herb. Philip. Bur. Sci.* 33779 (W--1263506), 33784 (Ld--photo of isotype, W--isotype).

CLERODENDRUM MABESAE Merr., *Philip. Journ. Sci. Bot.* 12: 302 [as "*Clerodendron*"]. 1917; Mold., *Known Geogr. Distrib. Verbenac.*, ed. 1, 62 & 90. 1942.

Synonymy: *Clerodendron mabesae* Merr., *Philip. Journ. Sci. Bot.* 12: 302. 1917.

Bibliography: E. D. Merr., *Philip. Journ. Sci. Bot.* 12: 302. 1917; Fedde & Schust., *Justs Bot. Jahresber.* 45 (1): 148. 1923; E. D. Merr., *Enum. Philip. Flow. Pl.* 3: 403. 1923; A. W. Hill, *Ind. Kew. Suppl.* 6, i, p. 1, 49. 1926; Mold., *Known Geogr. Distrib. Verbenac.*, ed. 1, 62 & 90. 1942; H. N. & A. L. Mold., *Pl. Life* 2: 70. 1948; Mold., *Known Geogr. Distrib. Verbenac.*, ed. 2, 141 & 182. 1949; A. W. Hill, *Ind. Kew. Suppl.* 6, imp. 2, 49. 1959; Mold., *Résumé* 183 & 451. 1959; Mold., *Fifth Summ.* 1: 316 (1971) and 2: 868. 1971; Mold., *Phytol. Mem.* 2: 306 & 539. 1980.

A glabrous tree, about 7 m. tall; branches brownish; ultimate branchlets somewhat tetragonal; leaves decussate-opposite; petioles 4--5 cm. long; leafblades submembranous, oblong to oblong-obovate, 30--36 cm. long, 8--12 cm. wide, apically acuminate, marginally entire or with a few, widely scattered, minute teeth, basally acute, greenish or olivaceous and similar in color on both surfaces when dry, shiny and minutely punctulate on both surfaces; secondaries about 10 per side, curvate, prominent, anastomosing, the primary reticulations very lax and prominent; inflorescence terminal, paniculate, about 10-flowered; peduncles very short, about 2 cm. long if the rachis is included; calyx chartaceous, somewhat inflated, about 4 cm. long, externally glandular-punctate, brunescent in drying, somewhat angular, basally cuneate, 5-lobed to about the middle, the lobes narrowly lanceolate, apically acuminate; corolla hypocrateriform, white, the tube slender, about 12 cm. long and 2 mm. wide, the lobes spreading, lanceolate to oblanceolate, about 4 cm. long, 5--7 mm. wide.

This species is based on *Mabesa*, *Herb. Philip. For. Bur.* 26796 from moist shaded slopes in forests back of Paete, at about 370 m. altitude, Laguna Province, Luzon, Philippine Islands, collected on March 27, 1917. Merrill (1917) notes that this is "A remarkable species, manifestly allied to *Clerodendron minahassae* Miq., from which it differs in its much longer flowers." In his 1923 work he states that the species is endemic to Luzon, inhabiting primary for-

ests at about 300 m. altitude. It is known to me thus far only from the original collection.

Citations: PHILIPPINE ISLANDS: Luzon: *Mabesa*, *Herb. Philip. For. Bur.* 26796 (Ld--photo of isotype, N--photo of isotype, W--1375168--isotype).

CLERODENDRUM MACROCALYCINUM J. G. Baker, *Journ. Linn. Soc. Lond.*

Bot. 18: 275 [as "*Clerodendron*"]. 1881; *Mold.*, *Known Geogr.*

Distrib. Verbenac., ed. 1, 53 & 90. 1942.

Synonymy: *Clerodendron macrocalycinum* Baker, *Journ. Linn. Soc. Lond. Bot.* 18: 275. 1881.

Bibliography: J. G. Baker, *Journ. Linn. Soc. Lond. Bot.* 18: 275. 1881; Jacks. in Hook. f. & Jacks., *Ind. Kew.*, imp. 1, 1: 561. 1893; *Mold.*, *Known Geogr. Distrib. Verbenac.*, ed. 1, 53 & 90. 1942; Jacks. in Hook. f. & Jacks., *Ind. Kew.*, imp. 2, 1: 561. 1946; *Mold.*, *Known Geogr. Distrib. Verbenac.*, ed. 2, 123 & 182. 1949; *Mold.* in Humbert, *Fl. Madag.* 174: 151, 203--205, 266, & 268, fig. 33 (1). 1956; *Mold.*, *Résumé* 155 & 451. 1959; Jacks. in Hook. f. & Jacks., *Ind. Kew.*, imp. 3, 1: 561. 1960; *Mold.*, *Fifth Summ.* 1: 260 (1971) and 2: 869. 1971; *Mold.*, *Phytol. Mem.* 2: 249 & 539. 1980; *Mold.*, *Phytologia* 58: 187. 1985.

Illustrations: *Mold.* in Humbert, *Fl. Madag.* 174: 205, fig. 33 (1). 1956.

A shrub or small bushy tree; branchlets and twigs very obtusely tetragonal, grayish, usually slightly compressed at the nodes, the younger parts densely puberulent with very minute brownish hairs, the older parts glabrescent, lenticellate; leaf-scars large and prominent, corky-margined; nodes not annulate; principal internodes 0.5--4 cm. long, mostly much abbreviated; leaves decussate-opposite; petioles very slender, 0.5--2 cm. long, very minutely puberulent or subglabrate; leafblades thin-membranous, bright-green, lighter beneath, often more or less brunnescens in drying, narrowly elliptic or oblanceolate, 4.5--8 cm. long, 1.5--2.5 cm. wide, apically acute or obtuse, marginally entire, basally attenuate-acute, glabrous above, very minutely and obscurely puberulent or glabrate beneath; midrib slender, flat above, prominulous beneath; secondaries filiform, 5--9 per side, flat above, subprominulous beneath, arcuate-ascending, very obscurely anastomosing at the margins; veinlet reticulation very sparse, practically indiscernible on both surfaces; inflorescence terminal, paniculate, composed of 2--4 pairs of mostly 3-flowered cymules; peduncles obsolete or to 1.5 cm. long, practically glabrous; rachis subglabrous; inflorescence ramifications 1.5--4 cm. long, glabrate; pedicels filiform, 7--15 mm. long, glabrous; foliaceous bracts absent; bractlets setaceous, 1--3 mm. long, glabrate; calyx thin-membranous or chartaceous, cylindric, about 1.6 cm. long during anthesis, 8--13 mm. wide, externally glabrous, longitudinally venose, the rim 5-lobed, the lobes triangular-ovate, about 3 mm. long, apically acute; corolla hypocrateriform, succulent, rose-violet or bright-red, its tube very narrow-cylindric, 2.5--3.5 cm. long, 1--1.5 cm. wide, externally glabrous, the limb 2.5 cm. wide, the lobes obovate, about 12 mm. long and 7 mm. wide, apically

rounded, glabrous; stamens and pistil exerted about 1 cm. from the corolla-mouth; fruiting-calyx to 2.3 cm. long; fruit not known.

This endemic species is based on *Kitching s.n.* from Tanala, Madagascar, deposited in the Kew herbarium. Collectors have found it growing in relic forests and littoral forests, to 2000 m. altitude, in flower in July and November. The corollas are said to have been "rouge vif" on *Humbert 3289* and "rose violacé" on *Decary 10125*.

A key to help distinguish this species from other Madagascar taxa will be found under *C. baronianum* Oliv. in the present series of notes [58: 184--190]. Material has been misidentified and distributed in some herbaria as *C. arenarium* J. G. Baker.

Citations: MADAGASCAR: *Baron 1211* (K); *Decary 10125* (N, P), *10755* (P); *Humbert 3289* (P); *Kitching s.n.* [Tanala] (E--photo of type, F--photo of type, K--type, Ld--photo of type, N--photo of type).

CLERODENDRUM MACROCALYX H. J. Lam, Verbenac. Malay. Arch. 293--294 [as "*Clerodendron*"]. 1919; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 62 & 90. 1942 [not *C. macrocalyx* DeWild., 1920].

Synonymy: *Clerodendron macrocalyx* H. J. Lam, Verbenac. Malay. Arch. 293. 1919.

Bibliography: H. Hallier, Meded. Rijks Herb. Leid. 37: 68. 1918; H. J. Lam, Verbenac. Malay. Arch. 293--294 & 364. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 90, 109, & ix. 1921; E. D. Merr., Enum. Philip. Flow. Pl. 3: 403. 1923; A. W. Hill, Ind. Kew. Suppl. 6, imp. 1, 49. 1926; Fedde & Schust., Justs Bot. Jahresber. 60 (2): 572. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 62 & 90 (1942) and ed. 2, 141 & 182. 1949; Mold., Alph. List Cit. 4: 1115. 1949; Pételot, Pl. Med. Camb. Laos Vietn. 2: 253 (1954) and 4: 99. 1954; A. W. Hill, Ind. Kew. Suppl. 6, imp. 2, 49. 1959; Mold., Résumé 183 & 451. 1959; Mold., Fifth Summ. 1: 316 (1971) and 2: 869. 1971; Mold., Phytologia 31: 395. 1975; Mold., Phytol. Mem. 2: 306, 387, & 539. 1980; P. Holmgren & al., Ind. Vasc. Pl. Type Microf. 441. 1985; Mold., Phytologia 58: 448 (1985), 59: 119 (1986), and 61: 467 & 468. 1987.

A shrub, 2--5 m. tall; stems 4--8 cm. in diameter; branchlets terete, densely fulvo-pubescent or -hirtellous; leaves decussate-opposite; petioles 3.5--7.5 cm. long, densely hirtellous or fulvo-pubescent; leafblades chartaceous, cordate- or subcordate-ovate or subrotund, 13--19 cm. long, 9.5--16 cm. wide, apically acuminate, marginally entire or sometimes more or less irregularly undulate or denticulate, basally cordate or subcordate and sub-3- or 5-veined, pubescent on both surfaces, especially beneath, not glandulose; secondaries 5--7 per side, densely lanate; inflorescence terminal, paniculate, 10--15 cm. long, 8 cm. wide, few-flowered, densely hirtellous or fulvo-pubescent; peduncles 2.5--5 cm. long; pedicels 3--12 mm. long; bractlets 2, alternate or opposite, setaceous, 2--3 mm. long; calyx large, 2.5--3 cm. long, apically constricted, basally subinflated, often red, densely pubescent, not glandulose, the rim 5-dentate, the teeth narrow, linear, 6--10 mm. long, apically very acute; corolla hypocrateriform, white, slightly exerted, the tube slender, 3.3 cm. long, the upper part sparsely villous, the lobes

elliptic, about 6 mm. long and 3.5 mm. wide, apically obtuse, vil-
lous; stamens exerted about 1 cm. from the corolla-mouth, inserted
at the middle or in the upper part of the corolla-tube; stigma
shortly bifid; ovary externally glabrous; fruiting-calyx not at all
or only slightly incrassate and accrescent, including the [immature]
fruit; fruit drupaceous, blue-green, globose, shiny.

This species is based on *Elmer 11338* from Todaya (Mt. Apo), Davao,
Mindoro, Philippine Islands, collected in flower in July, 1909, and
in fruit in August of the same year. Lam (1919) remarks that this
is "A plant, remarkable for its large calyx, in which it is nearly
conform [*sic*] with *C. Preslii*; it differs from that species, how-
ever, in several points, such as the broader leaves, the puberulous
corolla, the insertion of the stamens, the non-glandular calyx and
lower side of the leaves and their densier [*sic*] tomentum. Further
it is allied to *C. lanuginosum* in almost all characteristics, except
for the extraordinarily large calyx."

The *C. macrocalyx* DeWild., referred to above, is a synonym of *C.
fuscum* Gürke.

Collectors have encountered *Clerodendrum macrocalyx* H. J. Lam in
forests and along damp forest streams, at 150--650 m. altitude, in
flower from April to October, and in fruit in May, June, and August.
Merrill (1923) asserts that it is endemic to Mindanao, where it oc-
curs in thickets and secondary forests at low and medium altitudes,
citing *Ahern 691*, *Clemens 662*, *DeVore & Hoover 173*, *Elmer 11338*,
Mallonga, *Herb. Philip. For. Bur. 26265*, and *Ramos & Pascasio*, *Herb.
Philip. Bur. Sci. 34382*, *34904*, & *35024*.

The corollas are said to have been "white" on *Clemens 1960* and
Wenzel 3376, "white and pink" on *Wenzel 2621*, "white & red" on *Wen-
zel 3376*, and "violet" on *Lagrimas 213*. A vernacular name recorded
for the species is "taquipan".

On *Clemens 1960* the label bears this note: "This tree appeared
to be attached to a different tree near the ground". On the label
accompanying *Herb. Philip. For. Bur. 31154* is written "collector
died leaving no record about this specimen from Jolo".

Material of *C. macrocalyx* has been misidentified and distributed
in many herbaria as *C. lanuginosum* Blume or as *C. villosum* Blume. On
the other hand, the *Ramos*, *Herb. Philip. Bur. Sci. 42689*, distribut-
ed as *C. macrocalyx*, actually is *C. cumingianum* Schau.

Citations: PHILIPPINE ISLANDS: Mindanao: *Ahern 691* [field no. 91]
(W--445426, W--445861), *691Q* (Bz--19906, Bz--19907); M. S. *Clemens
1960* [*Herb. Philip. Bur. Sci. 15619*] (B, Bz--19905, Ca--238482, Ca--
268483, W--1527554); *DeVore & Hoover 173* (W--449404); *Elmer 11338*
(Bi--isotype, Bz--19902--isotype, Du--175582--isotype, L--isotype,
Mi--isotype, N--isotype, Ut--27513--isotype, Vt--isotype, W--711971-
isotype); *Lagrimas 213* (W--2245806); *Mallonga*, *Herb. Philip. For.
Bur. 26265* (Bz--19904, W--1292866); *Ramos & Edaño*, *Herb. Philip.
Bur. Sci. 49536* (B, Ca--323907, N); *Wenzel 2621* (Au, Ca--316903, Mu,
N), *3376* (Br, Bz--19903, Ca--354958, Ms, Mu, N). Siargao: *Ramos &
Pascasio*, *Herb. Philip. Bur. Sci. 35024* (W--1263819). Sulu: *Antonio
18* [*Herb. Philip. For. Bur. 31154*] (Mi, N).

CLERODENDRUM MACROSTACHYUM Turcz., Bull. Soc. Nat. Mosc. 36 (2): 220--221 [as "*Clerodendron*"]. 1863; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 54, 61, & 90. 1942 [not *Clerodendron macrostachyum* J. G. Baker, 1898].

Synonymy: *Verbenaceae familiae p. angulata* Wall., Numer. List 215, no. 6316. 1832. *Clerodendron macrostachyum* Turcz., Bull. Soc. Nat. Mosc. 220. 1863. *Clerodendron n.34* Hook. f. & Thoms. ex C. B. Clarke in Hook. f., Fl. Brit. India 4: 591 in syn. 1885. *Verbenaceae* Wall. ex C. B. Clarke in Hook. f., Fl. Brit. India 4: 591 in syn. 1885. *Clerodendron subscaposum* Hemsl. in Oliv., Hook. Icon. Pl. 27: pl. 2675. 1900. *Clerodendron scaposum* Hemsl. ex Léveillé, Fl. Kouy-Tchéou 442. 1915. *Clerodendrum scaposum* Hemsl. ex Lauener, Notes Roy. Bot. Gard. Edinb. 38: 484. 1980.

Bibliography: Wall., Numer. List 215, no. 6316. 1832; Turcz., Bull. Soc. Nat. Mosc. 36 (2): 220--221. 1863; C. B. Clarke in Hook. f., Fl. Brit. India 4: 591--592. 1885; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 561. 1893; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 175. 1895; J. G. Baker in Thiselt.-Dyer, Fl. Trop. Afr. 5: 313. 1900; Hemsl. in Oliv., Hook. Icon. Pl. 27 [ser. 7, 5]: pl. 2675. 1900; K. Schum., Justs Bot. Jahresber. 28 (1): 495. 1900; Brandis, Indian Trees, imp. 1 & 2, 508 (1906), imp. 2a, 508 (1907), and imp. 3, 508. 1911; Léveillé, Fl. Kouy-Tchéou 442. 1915; Léveillé, Cat. Pl. Yun-nan 277. 1917; H. J. Lam, Verbenac. Malay. Arch. 264 & 364. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 87, 95, 109, & ix. 1921; Brandis, Indian Trees, imp. 4, 508. 1921; Rodger in Lace, List Trees Shrubs Burma, ed. 2, 132. 1932; Chung, Mem. Sci. Soc. China 1 (1): 228. 1924; P'ei, Mem. Sci. Soc. China 1 (3): 128--129, pl. 24. 1932; Kanjilal, Das, Kanjilal, & De, Fl. Assam, imp. 1, 3: 486, 492, & 546. 1939; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 54, 61, & 90. 1942; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 561. 1946; Mold., Alph. List Cit. 2: 559 (1948) and 3: 668. 1949; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 126, 139, 144, & 182. 1949; Mold., Résumé 161, 169, 175, 179, 190, 270, 274, & 451. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 561. 1960; Hundley & Ko in Lace, Trees Shrubs Burma, ed. 3, 203. 1961; Brandis, Indian Trees, imp. 5, 508. 1971; Mold., Fifth Summ. 1: 273, 288, 300, 304, 322, 456, & 466 (1971) and 2: 707, 869, & 972. 1971; Lauener, Notes Roy. Bot. Gard. Edinb. 38: 484. 1980; Mold., Phytol. Mem. 2: 257, 272, 277, 291, 295, 313, 387, 390, & 539. 1980; Kanjilal, Das, Kanjilal, & De, Fl. Assam, imp. 2, 3: 486. 1982; Mold., Phytologia 60: 135, 136, & 141. 1986.

Illustrations: Hemsl. in Oliv., Hook. Icon. Pl. 27 [ser. 7, 5]: pl. 2675. 1900; P'ei, Mem. Sci. Soc. China 1 (3): pl. 24. 1932.

A rather herbaceous plant, to 2 m. tall, growing in limestone; stems subfleshy, thick, often prostrate, softly glandular-hirtellous; bark loose, deciduous; floriferous stems (or scapes) erect, slender, about 45 cm. tall, smooth, glabrous; basal leaves long-petiolate, erect; petioles 15--25 cm. long, thick, subglabrous or glandular-hirtellous; stem leaves 2, sessile, small, ovate, borne at the middle of the floriferous stem; basal leafblades membranous,

ovate, 10--33 cm. long, 8--16 cm. wide, apically acute or subacute to acuminate, marginally coarsely repand (often obscurely so) or repand-dentate to almost lobed, basally deeply cordate, sparsely short-pilose on roughened dots or hispidulous above, often whitened or grayish-downy and resinous-punctate beneath, pilosulous on the venation or glabrescent, the larger venation rather conspicuous; secondaries about 8 per side; inflorescence terminal, paniculate, much elongate, to 27 cm. long, sometimes compound, the ramifications long, the panicles narrow, the cymes remote, opposite or subverticillate, few- or many-flowered, somewhat glandular-pubescent or glabrate, toward the base 2-parted and 2-flowered; bracts small, linear-lanceolate or ovate (the smaller ones oblong), 4 mm. long, acuminate at both ends; pedicels filiform, 1.2--2.7 cm. long; calyx hemispheric, cupuliform, very small, 1--2 mm. long, apically 2 mm. wide, externally glabrate or obscurely pubescent, often with a few red glands, internally glabrous, the rim shallowly toothed, the teeth short, rounded; corolla delicate, 8--10 mm. long, pale-blue or blue, glabrous, often with a few glands, the tube short, linear, 5 mm. long, the lobes ovate-oblong or obovate, 5 mm. long, apically obtuse; stamens long-exserted; style subterminal, exserted, glabrous; ovary apically pilose, 2 or imperfectly 4-celled, 4-ovulate, with large red glands; fruiting-calyx unaltered or slightly inflated; fruit drupaceous, obovoid, about 2 mm. long, nearly dry, externally covered with red glands, ultimately splitting into 4 pyrenes.

This curious species is based on Lobb 361 from Singapore (according to Turczaninow), Moulmein, Burma (according to Clarke), or Java (according to a herbarium label). Turczaninow (1861) comments that the "Inflorescentia singularis, ramuli leviter arcuato-deflexi, petiolus foliorum inferiorum foliis longior, superius sensim decrescit, ita ut summa folia, diminuta et difformia, omnino sint sessilia." He placed the species in what he called the "*Euclerodendrea racemiflora*". Clarke (1885) avers that it is "Not allied to any other *Clerodendron*. The Moulmein material has smaller, less toothed, leaves, and has more pubescence and glands than the Chela plants." He cites unnumbered Wallich and Hooker & Thomson material from the limestone rocks above Chela, at 2000 feet altitude, in the Khasia hills, a Clarke collection from 5000 feet altitude, in the Upper Kala Pani, also in Khasia, and unnumbered Parish and Lobb collections from "on limestone rocks" at Moulmein, Burma. Kanjilal and his associates (1939) cite only the Wallich collection from 2000 feet altitude in the Khasi Hills and notes "No specimen in the Forest Herbarium, Shillong; imperfectly known."

The subterminal style, subverticillate inflorescence ramifications, and other unusual characters lead me to wonder if the species may not actually belong in the *Lamiaceae*.

A key to distinguish it from the other known taxa in Assam which are definitely in *Clerodendrum* will be found under *C. griffithianum* C. B. Clarke in the present series of notes [60: 134--136].

Pétiot found what he supposed to be this species growing at 1500 m. altitude, in flower in August, in Vietnam.

Hemsley's original (1900) description of *C. subscaposum* is: "Species habitu distinctissima. Caulia primarius subcarnosus vel crassus

et mollis, ut videtur prostratus, cortice laxo deciduo; caules (vel scapi) floriferi, erecti, graciles, circiter sesquipedales, laeves, glabri, infra medium foliis 2 sessilibus parvis ovatis instructi, cetera nudi. Folia longe petiolata, erecta, tenuia, fere membranacea, rotundatocordata, sinu angustissimo, absque petiolo 5--6 poll. longa, acuminata, obscure irregulariterque dentata, supra hispidula, subtus glabrescentia pallidiora vel colorata, venis primariis sat conspicuis; petiolo crassi, usque ad 10 poll. longi. Flores caerulei (fide Henry), absque staminibus 4--5 lin. longi, in paniculam angustam laxam terminalem dispositi; paniculae ramuli subverticillati pauciflori; pedicelli capillares. Calyx hemisphaericus, dentibus brevibus rotundatis. Corolla tubus brevis, limbi lobis ovato-oblongis obtusis. China: Mountains south-east of Mengtze, Yunnan, at 7000 ft. A. Henry 9181. The only specimen of this plant does not bear fully expanded flowers, but it is so different in habit from anything else we know that it was considered worth figuring."

P'ei (1932) cites only the type collection, giving the species' distribution as "Tonkin, (Chapa), Khasia", and commenting that "This species is characterized by its very long floral branches which are up to about 45 cm. long, and its long petiolate basal leaves." He cites the Hemsley (1900) reference as "1901".

The *Clerodendron macrostachyum* of Baker, referred to (above) as a homonym, is a synonym of *C. aurantiacum* J. G. Baker.

Citations: INDIA: Assam: Hooker f. & Thomson 34 (L, N, Pd, V). CHINA: Yunnan: A. Henry 9181 (N, N--photo). VIETNAM: Tonkin: Péterlot 3117 (N, W--1597336). MALAYA: Singapore: Lobb 361 (L--isotype, N--photo of isotype). MOUNTED ILLUSTRATIONS: P'ei, Mem. Sci. Soc. China 1 (3): pl. 24. 1932 (Ld).

CLERODENDRUM MACROSTEGIUM Schau. in A. DC., Prodr. 11: 666 [as "*Clerodendron*"]. 1847; Mold., Alph. List Comm. Vern. Names [1], 2, 4, 17, 19, 22, & 24. 1939.

Synonymy: *Volkameria grandiflora* Blanco, Fl. Filip., ed. 1, 512--513. 1837. *Clerodendron macrostegium* Schau. in A. DC., Prodr. 11: 666. 1847. *Clerodendron grandiflorum* Blanco ex H. J. Lam, Verbenac. Malay. Arch. 318. 1919 [not *C. grandiflorum* Gürke, 1983, nor (Hook.) Schau., 1847, nor Salisb., 1795, nor Schau., 1876]. *Clerodendron grandiflorum* H. Lam apud E. D. Merr., Enum. Philip. Flow. Pl. 3: 403 in syn. 1923. *Clerodendrom macrostegium* Schau. ex Mold., Résumé 259 in syn. 1959. *Clerodendron barbatum* Wall., in herb.

Bibliography: Blanco, Fl. Filip., ed. 1, 512--513 (1837) and ed. 2, 357. 1845; Schau. in A. DC., Prodr. 11: 657 & 666. 1847; Buek, Gen. Spec. Syn. Candoll. 3: 106 & 502. 1858; Miq., Fl. Ned. Ind. 2: 875--876 & 883. 1858; Miq., Ann. Mus. Bot. Lugd.-Bat. 3: 253. 1867; Blanco, Fl. Filip., ed. 3, 2: 295. 1878; Fern.-Villar & Naves in Blanco, Fl. Filip., ed. 3, 4: Nov. App. 160--161. 1880; Vidal y Soler, Phan. Cuming. Philip. 56 & 135. 1885; Vidal, Rev. Pl. Vasc. Filip. 211. 1886; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 561. 1893; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 175. 1895; Guerrero, Med. Pl. Philip. 1: 360. 1903; E. D. Merr., Philip. Journ. Sci. Bot. 2: 99. (1912) and 11: 310. 1916; H.

Hallier, Meded. Rijks Herb. Leid. 37: 71 & 76. 1918; E. D. Merr., Sp. Blanc. 334. 1918; H. J. Lam, Verbenac. Malay. Arch. 263, 318, 363, & 364. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 76, 87--88, 109, & ix. 1921; Guerrero, Philip. Bur. For. Tech. Bull. 22: 330. 1921; Mold., Alph. List Comm. Vern. Names [1], 2, 4, 17, 19, 22, & 24. 1939; Mold., Prelim. Alph. List Inv. Names 20 & 53. 1940; Mold., Alph. List Inv. Names 17 & 56. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 62, 66, & 90. 1942; Mold., Phytologia 2: 100. 1945; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 561. 1946; Mold., Alph. List Cit. 1: 131, 136, 141, & 225. 1946; Mold., Alph. List Inv. Names Suppl. 1: 5 & 6. 1947; Mold., Alph. List Cit. 3: 727 & 894 (1949) and 4: 1223. 1949; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 141, 148, & 182. 1949; Quisumb., Philip. Dept. Agr. Tech. Bull. 16: 790. 1951; Mold., Résumé 165, 183, 190, 199, 259, 264, 266, 392, & 451. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 561. 1960; Mold., Résumé Suppl. 3: 28. 1962; Neal, Gard. Hawaii, ed. 2, 731. 1965; Mold., Fifth Summ. 1: 282, 316, 322, 332, 359, 438, 446, & 450 (1971) and 2: 733 & 869. 1971; Mold., Phytol. Mem. 2: 272, 306, 313, 322, 350, & 539. 1980; H. N. & A. L. Mold. in Dassan. & Fosb., Rev. Handb. Fl. Ceyl. 4: 418 & 444. 1983; P. Holmgren & al., Ind. Vasc. Pl. Type Microf. 441. 1985; Mold., Phytologia 58: 208 & 448 (1985), 60: 131 (1986), 61: 25 & 413 (1986) and 61: 468. 1987.

An erect, hairy shrub, 2--5 m. tall, or small tree, 10--20 m. tall, often growing in masses; trunk straight, 3.5--10 cm. in diameter; branches glabrous; bark white; branchlets tetragonal, strigose-tomentose, eventually glabrous; leaves decussate-opposite, somewhat unpleasantly odorous; petioles short, 2.5--3.5 cm. long, with a small gland at the base, strigose-tomentose; leafblades membranous, large, blue-green when fresh, broadly ovate, about 22 cm. long, 15 cm. wide, apically acuminate, marginally entire or abundantly sharply serrate, basally subcordate or truncate to rounded, somewhat shiny and strigose-puberulent to glabrescent and rugose above, pale and pubescent beneath, finely and densely glandular-punctate; inflorescence axillary and terminal, paniculate or subumbelliform, compact; bracts and bractlets large, foliaceous, the outer ones largest, broadly ovate, subsessile, the upper ones oblong or lanceolate, apically long-acuminate, subequaling the corollas, mostly lilac or purplish, sometimes white; calyx tubular, light-green or bright-pink, showy, about 1.6 cm. long, externally sericeous, apically spreading, 5-veined, 5-fid halfway or almost to the base, the lobes subulate-lanceolate or lanceolate, apically cuspidate, lilac-tinted; corolla hypocrateriform, white or purplish, the tube slender, about 3 cm. long, about twice as long as the calyx, sericeous-subvillous, the limb 5-parted, 2-lipped, spreading, about 1.2 cm. wide, the lobes subequal, oblong or ovate, about 6 mm. long, apically obtuse; stamens 4, didynamous, inserted in the corolla-throat; style filiform; stigma bifid; ovary semiglobose, seated on a striate disk; fruiting-calyx incrassate, subcarnose, reflexed, white or purplish; fruit drupaceous, at first green, later blue to very deep-blue, apically depressed, 4-ribbed, 4-celled, each cell 1-seeded.

This species is based on *Cuming 1541* from somewhere in the Philippine Islands, probably from Luzon. Schauer (1847) notes that: "Species omni notā perinsignis". He cites only the type collection, of which he says that he saw dried (herbarium) material in the Berlin and Lucae herbaria.

Collectors have found *C. macrostegium* growing on mountainsides, in forests, open and secondary forests, thickets and open thickets, damp places in *abaca* plantations, and secondgrowth on riverbanks, at 100--650 m. altitude, in flower from November to January, March to July, and September, and in fruit in January, March, April, September, and December.

Merrill (1923) lists it from Luzon, Mindoro, Panay, and Sibuyan in the Philippines, as well as from Amboina, Ceram, and Saparua in the Moluccas.

The corollas are described as being "whitish" by Neal (in litt.), "white" on *Kornassi 801*, *Pijl 720*, *Ramos, Philip. Bur. Sci. 46361*, *Robinson 1864*, *Santos 545*, and *Sulit 4057*, "white, tinged purple" on *Pancho 1024*, "pale-purple" on *Bartlett 13595*, and "dark-purple" on *Santos 8218*.

The boiled leaves of this plant are said to be "famous" as a cancer cure, applied as a tepic decoction and plaster. Sulit asserts - and is supported by Neal in this assertion - that the plant is highly suitable for ornamental planting.

Common and vernacular names recorded for this species are "agboligan", "agbolígan", "aktolígan", "bagáuak", "bagavac", "baúgak", "casopanguil na puti", "kasopángil-na-putí", "kopa", "magbolígan", "malapotocan", "nagboligan", "nakbolígan", "payi-payi", "saling-ouac", and "volcameria de flores grandes".

Blanco's original (1837) description of *Volcameria grandiflora* is: "Tronco derecho, con las ramas blancas, y lampiñas. Hojas opuestas, aovadas alargadas, enteras lampiñas, y rugosas. Peciolos cortos, con una glandulilla en la base. Flores enpanoja umbelada. Involucro de la umbelita, dos hojuelas alesnadas. Propio de la florecita, dos hojuelas alesnadas y revueltas acia abajo. Cal. derecho cilindrico, hendido mui profundamente en cinco partes lanceoladas. Cor. fija en el centro del calix, y dos veces mas larga que el, bilabiada, dividida en cinco partes ovales concavas, revueltas acia abajo, y la una á un lado. Estam. cuatro, fijos cerca de la garganta de la corola: los dos mas largos. Ant. hendidas en dos partes, divergentes. German emisferico, asentado sobre una zona es-triada. Estilo linear. Estigma bifido. Baya jugosa deprimida, con cuatro angulos redondeados, cuatro aposentos y en cada uno semilla huesosa: algunas abortan y á veces queda solamente una ó dos. = Arbolito de tres varas, y que se hace grueso como el muslo. Las hojas son de color entre verde, y azul: el olor es algo fastidioso. Le he visto en muchos lugares. Sus hojas maceradas en agua dan un color azul mediano, pero fugaz. Flor. en Ag. * T, Malapotocan, Bagavac. Y, Agboligan, Nagboligan. Nota. Hai otra especie mui comun y conocida con las hojas dentadas aserradas. Este es precisamente la que tiene gran fama en Ylocos para la curacion del cancro. Para esto se lava la parte enferma con el cocimiento tibio de las

hojas, y despues se aplican estas en emplasto. Las ramas son lisas y blanquecinas. * T, Bagavac. Y, Agboligan, Nagboligan."

Fernandez-Villar & Naves (1880) say: "*Volkameria* (sp.) foliis dentato-serratis, Blanco ll. cc. Stirps polymorpha, foliis (praeter basim et apicem) junioribus grossè dentatis aut dentato-serratis, adultis integerrimis; floribus axillaribus et terminalibus; paniculis laxè aut densè floriferis. A C. *Infortunato* Linnaei vix ac nec vix differe videtur. Vulgatissima ad Manilam. V. v. sp. in Luzon, Joló et Basilan. (Cuming n. 1591). V. -- Saling-ouac."

Merrill (1918) notes that the reduction of Blanco's *Volkameria grandiflora* to *Clerodendrum macrostegium* was first made by Fernandez-Villar "and is certainly the correct disposition of Blanco's species. The specific name *grandiflorum* is invalidated [precluded] in *Clerodendron* by C. *grandiflorum* Schauer and C. *grandiflorum* Salisb. Illustrative specimen from Santa Inez, Rizal Province, Luzon, November, 1916 (Merrill: Species Blancoanae No. 1026)." This cited collection exhibits abundantly sharp-serrate leafblades. Of his no. 286 he says "the entire inflorescence, including the bracts, pale-purple."

Miquel (1858) was of the opinion that *Volkameria grandiflora* Blanco was conspecific with *Clerodendron capsulare* Blanco, which is now regarded as a synonym of C. *inerme* (L.) Gaertn. Hallier (1918) placed it in the synonymy of C. *minahassae* Teijsm. & Binn.

The C. *grandiflorum* accredited to Gürke in the synonymy (above) is a synonym of C. *excavatum* DeWild., C. *grandiflorum* Salisb. is a synonym of C. *serratum* (L.) Moon, and C. *grandiflorum* Schau. is C. *grandiflorum* (Hook.) Schau., which see.

Keys to help distinguish C. *macrostegium* from other Indonesian taxa will be found under C. *klemmei* Elm. in the present series of notes [61: 410--415] and from other taxa cultivated in the Hawaiian Islands under C. *indicum* (L.) Kuntze [61: 23--25].

Hallier (1918) comments that "Diese von Schauer zu den *Densiflora* gestellte Art gehört ganz zweifellos in die Verwandtschaft des Cl. *villosum* Bl. und der ihm oben folgenden Arten" in Section *Paniculata*. He cites Reinwardt 1464 from Saparua, DeVriese & Teijsmann s.n. from Ceram, Elmer 12161 from Romblon, and Cuming 1541 from Luzon, Philippine Islands. Merrill (1923) cites from the Philippines Ahern's Collector 3330, Cuming 1541, Elmer 12161, Kobbe, Herb. Philip. For. Bur. 6697, Loher 6573, Mangubat, Herb. Philip. Bur. Sci. 936, Merrill 886, 1244, 1260, 1860, & Sp. Blanc. 1026, and Merritt 3707 & 9957. The Loher 4421 collection is said to be a perfect match for Vidal 1650.

Material of *Clerodendrum macrostegium* has been misidentified and distributed in some herbaria as C. *brachyanthum* Schau., C. *bracteatum* Wall., C. *fragrans* Vent., C. *multibracteatum* Merr., and C. *viscosum* Vent. On the other hand, the Aguilar, Herb. Philip. For. Bur. 20165, distributed as C. *macrostegium*, actually is C. *brachyanthum* Schau., while Sathnam 81 is C. *lanuginosum* Blume and Merrill 799 is C. *viscosum* Vent.

Citations: BURMA: Upper Burma: D. J. Anderson s.n. [Bhamo, 10 February '68] (Bz--20934, Bz--20935). PHILIPPINE ISLANDS: Luzon:

Ahern's Collector, Herb. Philip. For. Bur. 450 (N, W--851209), 3330 (Bz--20017, N, W--708425); Cuming 1541 (L--isotype, L--isotype, M--isotype, Mu--1406--isotype, X--isotype); Edaño, Herb. Philip. Bur. Sci. 48723 (Ca--321767, N); F. C. Gates 8413 (Mi); Kienholz 186 [Herb. Philip. Bur. Sci. 16256] (Ca--263056); Loher 4421 (W--446870), 6573 (Mu--4183), 6595 (Mu--4184), 13371 (Mu--4344); E. D. Merrill 1860 (N, W--436812), Sp. Blanc. 1026 (Bz--20015, N, W--904713; Quisumbing, Herb. Philip. Bur. Sci. 76621 (N); M. Ramos, Herb. Philip. Bur. Sci. 8143 (N). Mindoro: Bartlett 13595 (Mi); T. Cruz 91 (Ur); Mangubat, Herb. Philip. Bur. Sci. 936 (Bz--20014, N, W--439744); E. D. Merrill 886 (E--118828, N, W--435854), 1244 (W--436215), 1280 (W--436249), Dec. Phil. For. Fl. 286 (Ca--70115, Du--9531, Mi, Os, W--1584128); M. Ramos, Herb. Philip. Bur. Sci. 46361 (Bz--20013, Ca--309557, N); J. V. Santos 545 (Mi), 8218 (W--2246513); Sulit, Philip. Nat. Herb. 13770 (A), 13772 (A, W--2188151). Romblon: Elmer 12161 (Bi, Bz--20016, L, N, Ut--28991, Vt, W--917598). GREATER SUNDA ISLANDS: Java: Roepke s.n. [21/8/1918] (Bz--20925). MOLUCCA ISLANDS: Amboina: Pijl 720 (Bz--20002, Bz--20003); C. B. Robinson 1864 (Bz--20004, N, W--775250). Ceram: Buwalda 5930 (Bz--72957); Kornassi 29 (Bz--20009, Ca--236048, Ut--80795), 801 (Bz--20005, Bz--20006, Ca--265983, Ut--80828); Rutten 129 (Bz--20010, Ut--80796); Teijsmann 5075 (Bz--20008, Ut--11579), s.n. [Wahaai, Augustus] (Bz--20007); Treub s.n. [1893] (Bz--20011). CULTIVATED: Hawaiian Islands: Potter FL.91 (Mi). Philippine Islands: Pancho 1024 (Ba).

CLERODENDRUM MADAEERA (Roxb.) Voigt, Hort. Suburb. Calcutt. 467 [as "Clerodendron"]. 1845; Mold., Phytologia 50: 267. 1982.

Synonymy: *Volkameria madoeera* Roxb., Hort. Beng., imp. 1, 46 nom. nud. 1814. *Clerodendron madaeera* (Roxb.) Voigt, Hort. Suburb. Calcutt. 467. 1845. *Volkameria madaeera* Roxb. apud Voigt, Hort. Suburb. Calcutt. 467 in syn. 1845. *Clerodendron madaeera* Voigt apud Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 561. 1893.

Bibliography: Roxb., Hort. Beng., imp. 1, 46. 1814; Voigt, Hort. Suburb. Calcutt. 467. 1845; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 561 (1893), imp. 1, 2: 1219 (1895), imp. 2, 1: 561 (1946), imp. 2, 2: 1219 (1946), imp. 3, 1: 561 (1960), and imp. 3, 2: 1219. 1960; Mold., Fifth Summ. 2: 733, 869, & 969--971. 1971; Mold., Phytol. Mem. 2: 259, 350, 387, & 539. 1980; Roxb., Hort. Beng., imp. 2, 46. 1980; Mold., Phytologia 50: 267. 1982.

Roxburgh (1814) says of this taxon merely "Madoeera. H. Madoear. Cawnpore. Coll. Hardwicke, 1800". Voigt (1845) says: "Cawnpore. Was introduced into H. C. G. in 1800, but had not fl. up to 1814".

Nothing is known to me of this plant save what is stated in its meager bibliography (above). As far as I know, it has not been disposed of in any way by any previous writer.

CLERODENDRUM MADAGASCARIENSE Mold., Phytologia 3: 313. 1950.

Synonymy: *Clerodendron ternifolium* J. G. Baker, Journ. Linn. Soc. Lond. Bot. 20: 229. 1883 [not *Clerodendron ternifolium* H.B.K., 1817, nor *Clerodendrum ternifolia* D. Don, 1825].

Bibliography: H.B.K., Nov. Gen. Sp. Pl. 2: 244. 1817; D. Don,

Prodr. Fl. Nep. 103. 1825; J. G. Baker, Journ. Linn. Soc. Lond. Bot. 20: 229. 1883; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 562 (1893) and imp. 2, 1: 562. 1946; Mold., Phytologia 3: 313. 1950; E. J. Salisb., Ind. Kew. Suppl. 11: 56. 1953; Mold. in Humbert, Fl. Madag. 174: 152, 205, 208--209, 266, 268, & 269, fig. 33 (5). 1956; Mold., Résumé 155, 270, & 451. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 562. 1960; Mold., Résumé Suppl. 16: 20. 1968; Mold., Fifth Summ. 1: 260 & 457 (1971) and 2: 869. 1971; Mold., Phytol. Mem. 2: 249 & 539. 1980; H. N. & A. L. Mold. in Dassan. & Fosb., Rev. Handb. Fl. Ceyl. 4: 418. 1983; Mold., Phytologia 58: 188. 1985.

Illustrations: Mold. in Humbert, Fl. Madag. 174: 205, fig. 33 (5). 1956.

An erect shrub, 1.5 m. tall, or small tree; branches and branchlets apparently rather virgate, grayish, obtusely tetragonal, minutely puberulent, conspicuously lenticellate with longitudinally elongated, corky lenticels, the ultimate branchlets long, woody, simple, slender, and straight; nodes annulate; principal internodes 1--5.5 cm. long, mostly abbreviated; leaves ternate, numerous, ascending, short-petiolate; petioles very slender, 4--9 mm. long, minutely puberulent; leafblades membranous, rather firm-textured, bright-green on both surfaces, often brunnescens in drying, narrowly elliptic, varying to lanceolate or oblanceolate, 3.3--7.5 cm. long, 1--1.5 cm. wide, apically gradually narrowed to the blunt or acute apex, marginally entire, basally attenuate-acute, minutely puberulent on both surfaces or glabrescent (except for the midrib) above; midrib very slender, flat above, prominulous beneath; secondaries very slender, 5--10 per side, flat above, slightly subprominulous beneath, irregular, mostly short, arcuately joined near the margins beneath, mostly obscure or indiscernible above; veinlet reticulation sparse, indiscernible above, the largest portions often visible beneath; inflorescence axillary and terminal, loosely many-flowered, usually in the form of flat-topped panicles at the ends of the long branchlets, the individual cymes most often 3-flowered, stipitate, minutely puberulent throughout; bractlets lanceolate or linear, the uppermost ones in the terminal inflorescences often more or less foliaceous, puberulent, the ultimate ones linear-setaceous; pedicels slender or filiform, 2--8 mm. long, puberulent; calyx chartaceous, campanulate, 1.3--2.2 cm. long, 9--12 mm. wide, very sparsely and minutely strigillose or glabrescent, longitudinally venose, the rim deeply 5-lobed, the lobes ovate or deltoid, 4--7 mm. long, apically acute, erect; corolla infundibular-hypocrateriform, rose or wine-red, the tube broadly cylindric, 2--2.5 cm. long, 2.5--4 mm. wide, apically gradually ampliate, externally very sparsely puberulent, the limb to 2 cm. wide; stamens and pistil exerted 1--1.5 cm. from the corolla-mouth; ovary small, globose.

Baker (1883) refers to this plant, apparently rather inaccurately, as "An erect tree, glabrous in all its parts". It is based on *Baron 1680* from central Madagascar, collected in or before October of 1882 and deposited in the Kew herbarium. Baker comments that it is "Allied to *C. arenarium* and *C. laxiflorum*". Collectors have encountered it at the edges of rivers, at 1000 m. altitude, in anthe-

sis in September and October.

The *Clerodendrum ternifolium* of Humboldt, Bonpland, and Kunth, referred to in the synonymy (above), is a valid South American species, while that of Don is a synonym of *C. serratum* (L.) Moon, which see.

A key to help distinguish *C. madagascariense* from other Madagascar taxa will be found under *C. baronianum* Oliv. in the present series of notes [58: 184--190].

Citations: MADAGASCAR: Baron 1680 (E--photo of type, F--photo of type, K--type, Ld--photo of type, N--photo of type, P--isotype), 1681 (P); Decary 5228 (P), 5882 (N, P).

CLERODENDRUM MAGNIFICUM Warb., Engl. Bot. Jahrb. 10: 428 [as "*Clerodendron*"]. 1890; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 67 & 90. 1942.

Synonymy: *Clerodendron magnificum* Warb., Engl. Bot. Jahrb. 10: 428. 1890.

Bibliography: Warb., Engl. Bot. Jahrb. 10: 428. 1890; K. Schum. & Lauterb., Fl. Deutsch. Schutzgeb. Südsee 525. 1900; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 101. 1901; Pulle in Lorentz, Nova Guinea, ser. 1, 8: 402--403 (1910) and ser. 1, 8: 687. 1914; H. J. Lam, Verbenac. Malay. Arch. 273 & 364. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 77, 94, 109, & ix. 1921; H. J. Lam in Lauterb., Engl. Bot. Jahrb. 59: 96. 1924; Bakh. in White, Journ. Arnold Arb. 10: 264. 1929; Bakh., Journ. Arnold Arb. 10: 73--74. 1929; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 101. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 67 & 90 (1942) and ed. 2, 149 & 182. 1949; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 101. 1959; Mold., Résumé 200, 202, & 451. 1959; Mold., Fifth Summ. 1: 335 & 338 (1971) and 2: 869. 1971; Mold., Phytol. Mem. 2: 325, 328, & 539. 1980; Mold., Phytologia 31 (1982), 59: 472 (1986), and 61: 415. 1986.

A small bush or large, fleshy, glabrous shrub, 1.5--3 m. tall; stems tetragonal, not inflated, rather smooth, the young parts red-purple; leaves decussate-opposite, rather variable in size and form; petioles thick, 2--7 cm. long, glabrous, purple-red; leafblades large, membranous, sappy, broadly ovate, 22--28 cm. long, 14--18 cm. wide, apically short-acuminate, marginally entire, basally rounded or subacuminate, dark glossy bright-green above and with purple impressed veins or entirely purplish-green, paler green beneath, 3- or 5-plinerved, glabrous; secondaries about 6 per side, ascending at a rather acute angle, sharply prominent and red-purple beneath, anastomosing in loops near the margins; inflorescence terminal, a panicle-like thyrses, trichotomous, 15--20 cm. long and almost equally wide, shorter than the upper leaves, red and glabrous throughout, the ramifications 3--6 cm. long; bracts and bractlets foliaceous, very variable in size and shape, red, mostly lanceolate or obovate, 1--2 cm. long; pedicels about 5 mm. long, red; calyx large, red, inflated, 2--2.5 cm. long, 1.5--3 cm. [fide Warburg; =mm.], 5-angled, 5-lobed, the lobes unequal, ovate, 2--12 mm. long, apically acute; corolla hypocrateriform, salmon-pink to red or

scarlet, the tube equaling the calyx, 2.5 cm. long, 2 mm. wide, the lobes obovate, spreading, subequaling the tube, apically obtuse, basally attenuate; stamens long-exserted; filaments red, about 10 cm. long, 3--4 times as long as the corolla-tube; style filiform, 8 cm. long, slightly shorter than the stamens, red; stigma bifid, the branches 1 mm. long; fruit drupaceous, included by the fruiting-calyx when immature, globose, 1 cm. long and wide, orange-yellow, by abortion producing 2--4 pyrenes.

Warburg (1890) comments that "Durch die prächtig rot gefärbte Inflorescenz mit den ebenso gefärbten grossen Kelchen, Bracteen, Blütenstielen, Staubgefässen und Griffeln, ferner durch die saftig grünen Blätter ist diese Pflanze eine der schönsten Zierden des Gipfelwaldes des Sattelberges und wohl zu gleicher Zeit die schönste Pflanze, die bisher von Neu-Guinea bekannt geworden ist. Ohne Zweifel wird sie bald eine beliebte Gewächshauspflanze bei uns sein, d. h. wenn der Wuchs sich in mässigere Dimensionen wird lenken lassen können.

"Indurch den Mangel an Behaarung und den grossen, gefärbten Kelch unterscheidet sich die Art von allen *Clerodendron*arten derselben Gruppe (nämlich der Section *paniculata* [sic] DC., Prodr. Xi. p. 666), sie steht aber der *Cl. Bethunianum* Lowe aus Sarawak in Nordborneo (Curtis, Regist. t. 4485, Hook., Bot. Mag. Compan. 1848. p. 74) nahe, unterscheidet sich aber durch grössere Kelche und Blüten, durch den Mangel der Schuppen auf den Blattunterseite, durch die unverzähnten, an der Basis nicht herzförmigen Blätter und anders mehr. Da aber diese Art sich in den Warmhäusern gut als kleinere Pflanze kultiviert lässt, obgleich sie in Borneo 10' hoch wird, so darf man es bei unserer Art gleichfalls hoffen."

Bakhuizen (1929) notes that this is "A beautiful species, which up to now is known only from New Guinea and spreads apparently over the whole island on [sic] low country."

Collectors have found *Clerodendrum magnificum* growing in woods and dense high forests, forest clearings, and along streamsides, at 80--2550 m. altitude, in flower in May, June, and September to December, and in fruit in March. The plant is described by Darbyshire as "common on the floor of tall rainforests".

The corollas are described as "red" on Aet & Idjan 816 and Kanehira & Hatusima 12412, "light-red" on Kaernbach 69, "scarlet" on Darbyshire 848, and "salmon" on Brass 680.

Vernacular names reported for the species are "maipa" and "mangkafeh".

A key to help distinguish the species from other Indonesian taxa in this genus will be found under *C. klemmei* Elm. in the present series of notes [61: 410--415].

The Warburg description (1890) is cited by Durand & Jackson (1901) as "1891", the volume titlepage date.

The MacGregor collection, cited below, is a mixture with *C. friesii* K. Schum.

Schumann & Lauterbach (1900) cite Hellweg 239 & 525 and Kaernbach 69; Pulle (1910) cites Versteeg 1732 from West Irian but notes that this collection differs somewhat from the typical form in its some-

what smaller leaves. In his 1914 work he cites *Gjellerup* 216 and *Von Römer* 501 & 593; Lam (1924) cites *Kaernbach* 69 and *Schlieben* 16895; Bakhuizen (1929) cites *Brass* 680 & 1129. All these collections are from New Guinea.

Citations: NEW GUINEA: Papua: *Brass* 680 (Bz--20019), 1129 (Bz--20020); *Chalmers* s.n. [S.E. New Guinea 1878] (Mb); *Darbyshire* 848 (Ba); *Loria & Giulianetti* s.n. [Novembre 1882] (Mb); *W MacGregor* s.n. [Camp 1, 1889] (Mb), s.n. [5/6/89] (Mb). Territory of New Guinea: *Hellwig* 239 (Bz--20022); *Schlechter* 16895 (Ca--226500). West Irian: *Gjellerup* 216a (Bz--20023); *Kanehira & Hatusima* 12412 (Bz--20018); *Versteeg* 1732 (Bz--20021, Bz--25531, Ld--photo, N--photo, Ut--13809). NEW GUINEAN ISLANDS: Japan: *Aet & Idjan* 816 (Bz--72745). Saibai: *C. H. Hartmann* s.n. [1885] (Mb).

CLERODENDRUM MAGNOLIAEFOLIUM J. G. Baker in Trimen, Journ. Bot. Brit. 20: 243 [as "*Clerodendron*"]. 1882; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 53 & 90. 1942.

Synonymy: *Clerodendron magnoliaefolium* J. G. Baker in Trimen, Journ. Bot. Brit. 20: 243. 1882.

Bibliography: J. G. Baker in Trimen, Journ. Bot. Brit. 20: 243. 1882; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 561. 1893; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 53 & 90. 1942; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 561. 1946; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 123 & 182. 1949; Mold. in Humbert, Fl. Madag. 174: 151, 193, 196--197, 266, & 268, fig. 31 (8). 1956; Mold., Résumé 155 & 451. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 561. 1960; Mold., Fifth Summ. 1: 260 (1971) and 2: 869. 1971; Mold., Phytol. Mem. 2: 249 & 539. 1980; P. Holmgren & al., Ind. Vasc. Pl. Type Microf. 441. 1985; Mold., Phytologia 58: 187. 1985.

Illustrations: Mold. in Humbert, Fl. Madag. 174: 193, fig. 31 (8). 1956.

A shrub or tree, 3--8 m. tall; branchlets and twigs rather slender, gray, lenticellate, glabrous, often shiny; nodes not annulate; principal internodes 2--5 cm. long, or sometimes more abbreviated on twigs; leaves decussate-opposite; petioles rather stoutish, flat or canaliculate above, 2--14 mm. long, glabrous; leafblades subcoriaceous, uniformly bright-green and shiny on both surfaces, elliptic or oblanceolate, 3--11.5 cm. long, 1.5--4 cm. wide (mostly 3.5--7.5 cm. long and 4.5 cm. wide), apically rounded or subacute, marginally entire, often revolute in drying, basally attenuate or acuminate, glabrous on both surfaces; midrib slender, flat above, sharply prominent beneath; secondaries slender, 4--15 per side, divergent at almost right angles or slightly ascending, arcuately joined several mm. from the margins, varying from obscure to subprominulous above, prominent beneath; veinlet reticulation mostly sparse and obscure, rarely prominent above; inflorescence axillary, mostly borne at the tips of the twigs, the cymes mostly few-flowered but sometimes aggregated into small panicles, nigrescent throughout; lateral peduncles elongated to 4.5 cm., glabrous, shiny, those at the base of the panicles usually much abbreviated; pedicels stout, nigrescent,

1.5--2 cm. long, glabrous; foliaceous bracts absent; bractlets linear, 4--8 mm. long, glabrous; calyx coriaceous, tubular, green when fresh, nigrescent in drying, not venose, 2.3--3.5 cm. long, 1--1.6 cm. wide, glabrous, the rim 5-lobed, the lobes 5--6 mm. long, apically acute or obtuse; corolla infundibular, violet or rose to white with a rosy throat, the tube broad, barely equaling the calyx, about 5 mm. wide, glabrous, the rim 5-lobed, to 3.5 cm. wide, the lobes broadly elliptic, 13--15 mm. long, about 10 mm. wide, apically rounded; stamens exerted about 2 cm. from the mouth of the corolla-tube, reddish; anthers reddish-yellow; pistil reddish.

This endemic species is based on *Baron* 93, collected somewhere in Madagascar before June 1889 and deposited in the Kew herbarium.

Collectors have encountered this plant in shady river forests, 800--1000 m. altitude, in flower in February and November.

The corollas are said to have been "rose"-color on *Decary* 17526, "violet" on *Hildebrandt* 3899, and "white, the throat rose" on *Cours* 981.

It should be noted here that in my 1956 work, through a typographic error, the length of the calyx-lobes is given as "5--6 cm." long, instead of 5--6 mm.

A key to help distinguish this species from other Madagascar taxa will be found under *C. baronianum* Oliv. in the present series of notes [58: 184--190].

Citations: MADAGASCAR: *Baron* 93 (E--photo of isotype, F--photo of isotype, Ld--photo of isotype, N--isotype, N--photo of isotype, P--isotype); *Cours* 981 (P); *Decary* 17526 (P); *Hildebrandt* 3899 (N, P); *Humbert & Cours* 17647 (P); *Ursch* 3 (N, P).

CLERODENDRUM MAKANJANUM H. Winkler, Feddes Repert. Spec. Nov. 18: 124

[as "*Clerodendron*"]. 1922; B. Thomas, Engl. B. Thomas, Engl.

Bot. Jahrb. 68: [Gatt. Clerod.] 48, 88, & 94. 1936 [not *C.*

makanjanum "sensu Meeuse", 1960].

Synonymy: *Clerodendron makanjanum* H. Winkler, Feddes Repert. Spec. Nov. 18: 124, 1922. *Clerodendron mekanjanum* H. Winkler ex Mold., Known Geogr. Distrib. Verbenac., ed. 1, 49 & 90 sphalm. 1942. *Clerodendron makajanum* Winkler apud Anon., U. S. Dept. Agr. Bot. Subj. Ind. 15: 14356 sphalm. 1958. *Clerodendron fragile* Peter ex Mold., Resume 263 in syn. 1959.

Bibliography: H. Winkler, Feddes Repert. Spec. Nov. 18: 124. 1922; A. W. Hill, Ind. Kew. Suppl. 7: 51. 1929; Fedde & Schust., Justs Bot. Jahresber. 53 (1): 1072. 1932; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 48, 88, & 94. 1936; Brenan & Greenway, Tangan. Terr. Check-list 2: 631. 1939; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 49 & 90 (1942) and ed. 2, 116 & 182. 1949; Brenan, Check-list Trees Shrubs Tangan. 2: 631. 1949; Anon., U. S. Dept. Agr. Bot. Subj. Ind. 15: 14356. 1958; Meeuse in Dyer, Flow. Pl. Afr. 32: pl. 1274. 1958; Anon., Assoc. Étud. Tax. Fl. Afr. Trop. Ind. 1958: 64. 1959; Meeuse, Excerpt. Bot. A.1: 213. 1959; Mold., Résumé 144, 153, 263, & 451. 1959; Mold., Résumé Suppl. 1: 9, 10, 16, & 25. 1959; Wild & Gelfand, Cent. Afr. Journ. Med. 5: 292--305. 1959; Gillett, Kew Bull. 14: 342--344. 1960; Anon., Assoc. Étud. Tax. Fl.

Afr. Trop. Ind. 1960: 60. 1961; Dale & Greenway, Kenya Trees Shrubs 583 & 585. 1961; Townsend, Excerpt. Bot. A.3: 127. 1961; Mold., Résumé Suppl. 13: 4 (1966) and 15: 19. 1967; Greenway, Journ. East Afr. Nat. Hist. Soc. Nat. Mus. 27: 196. 1969; Gillett, Numb. Checklist Trees Kenya 46. 1970; Mold., Fifth Summ. 1: 236, 245, 247, 249, 251, 256, 445, 463, 465, & 466 (1971) and 2: 869. 1971; Farnsworth, Pharmacog. Titles 8 (8): vi. 1973; Jacobsen, Kirkia 9: 172. 1973; Isaacson, Flow. Pl. Ind. 1: 336. 1979; Mold., Phytol. Mem. 2: 225, 230, 235, 237, 238, 240, 245, & 539. 1980; Mold., Phytologia 59: 259 (1986) and 61: 408. 1986.

A weak-stemmed, loosely branched shrub or spreading climber, to 3 m. tall, completely leafless when in flower; stems and branches fleshy, yellow-brown or gray; bark gray; young branchlets white-tomentose, becoming glabrescent; principal internodes 3--6 cm. long; width of last year's stem just below the inflorescence about 1.5 mm.; leaves decussate-opposite, clustered on short twigs, petiolate; leafblades ovate-oblong, to 5 cm. long and 2.5 cm. wide, apically acute or subobtuse, marginally coarsely and irregularly serrate, somewhat fleshy, basally attenuate into the petiole, scattered-pilose beneath, becoming glabrescent; secondaries 3 or 4 per side; inflorescence terminal, spicate-paniculate, 5--15 cm. long; rachis purple, the sympodia to 10 mm. long, glabrous, the lower ramifications 1--2 mm. long; bracts lanceolate; flowers medium-size, pedicellate, zygomorphic, about 1 cm. long; pedicels about 2.5 mm. long; calyx campanulate, 2--3 mm. long, scattered-glandulose, 5-lobed, the lobes mostly broader than long, apically obtuse to rounded-obtuse or rarely acute, glandulose, marginally glandular-ciliate; corolla zygomorphic, pale-mauve or blue and white, externally densely glandulose, the tube short, the lobes declinate, glandular-ciliate, the lip pinkish-purple, the lowest lobe marginally more or less involute but not navicular; stamens erect, arcuate, 10--14 mm. long at time of full anthesis, basally papillose-pilose; anthers 2 mm. long; fruit drupaceous, globose, about 6 mm. long and wide, glandulose when young, soon glabrescent, nervose in drying.

This very characteristic species is based on Winkler 3797 from the succulent-savanna between Makanja and Same, south of the Pare Mountains, collected on September 1, 1910, and deposited in the Breslau herbarium. Winkler (1922) cites also Engler 1517 from Tanganyika (Tanzania) and comments that "Die Art, die *C. kissakense* Gürke sehr nahe steht, ist sofort an den wagerecht abspiezierenden Seitenzweigen zu erkennen. Die Blätter scheinen stumpfer und von weniger gestreckten Form als bei der Gürkeschen Art zu sein. Die Kelchzipfel decken sich nicht. Der flache, löffelförmige Vorsprung der zwar \pm eingerollten, aber nicht kahnförmigen Unterlippe fehlt." It is a member of the Subgenus *Cyclonema*.

Meeuse (1958) gives a lengthy discussion of this species as compared to *C. wildii* Mold: "Dr. H. Wild of the Government Herbarium, Salisbury, Southern Rhodesia, after whom Dr. H. N. Moldenke named his *Clerodendrum wildii*, reported to the National Herbarium, Pretoria, that this species is very close to, if not the same as, *C. makanjanum*. The original material of *C. makanjanum* was destroyed

during the war [World War II], but after a comparison of Winkler's original description of *C. makanjanum* with Moldenke's description of *C. wildii*, and of a topotype of *C. makanjanum* collected by Drummond and Hemsley, kindly sent on loan by the East African Herbarium, Nairobi, with authentic material of *C. wildii* there can be very little doubt that the two names are indeed synonymous" and that *C. wildii* Mold. should be placed in the synonymy of *C. makanjanum*. He comments that Thomas (1936) "mentions an Engler specimen (No. 1577) from Usambara, Tanganyika Territory, as the type [of *C. makanjanum*], but this is erroneous because the author of the species had already clearly indicated a specimen that he himself had collected (Winkler 3797 from near Makanja, Tanganyika in herb, Breslau) as the type by adding 'Original' in the citation. This is still important, although the original specimens are destroyed, for the selection of a type locality, because it makes the Drummond and Hemsley gathering mentioned before a topo-type." Thomas cites only the Engler 1577 collection and places the species in Section *Stacheocymosa* Thomas in Subgenus *Cyclonema*.

Gillett (1960) has more recently re-examined the two taxa and reports as follows: "A *Clerodendrum* from the Soutpansberg District of the Transvaal has recently been illustrated in 'Flowering Plants of Africa' (t. 1274: 1958) as *C. makanjanum* Winkler, *C. wildii* Moldenke being cited as a synonym. The type of *C. makanjanum* seems to have been destroyed in the 1939-45 War but some ten specimens from NE. Tanganyika and SE. Kenya, an area including the type-locality, which seem to have been correctly identified as *C. makanjanum* have been examined and are found to differ consistently in the characters listed below, from *C. wildii*, which occupies an entirely separate area. In these circumstances it seems clear that *C. wildii* should be retained as a distinct species, at least until experimental evidence is produced that it is freely interfertile with *C. makanjanum*, in which case subspecific status might be appropriate. It may be remarked in passing that a third species, *C. kissakense* Guerke (1900) appears from the description to be closer to *C. wildii* than is *C. makanjanum*." The differences referred to above may be summarized as follows: *C. makanjanum* -- width of last year's stem just below the inflorescence about 1.5 mm.; length of lower inflorescence-branches 1--2 mm.; inflorescence sympodia up to 10 mm. long and glabrous; length of calyx during anthesis about 3 mm.; length of stamens in open flower 10--14 mm.; length of anthers about 2 mm.; and width of fruit about 6 mm. *C. wildii* -- width of last year's stem just below the inflorescence about 2.5 mm.; length of lower inflorescence-branches often up to 3--5 mm.; inflorescence sympodia up to 15 or 20 mm. long, glabrous or more often tomentellous; length of calyx during anthesis 4--6 mm.; length of stamens in open flowers 17--25 mm.; length of anthers about 4 mm.; and width of fruit 8--9 mm. He cites from Kenya for *C. makanjanum* the following: Bally 8544, Dale 3785, Drummond & Hemsley 4416, Joana in Bally 7500, and Ossent 106 and from Tanganyika: Bally 5750 & 5751, Burt 4920, Drummond & Hemsley 2330, Engler 1517, and Winkler 3766 & 3797.

The *C. matamanense* Mold. and *C. ribauense* Mold., reduced to *C.*

makanjanum by me in a previous publication (1971), actually belong to the synonymy of *C. wildii* Mold. The *C. makanjanum* of Isaacson (1979) is also really *C. wildii* as is that reported by me in various previous papers from Zambia, Zimbabwe, Malawi, Mozambique, and South Africa.

Collectors have encountered the true *C. makanjanum* on hillsides and in open woodlands in association with *Markhamia*, *Pileostigma*, *Vitex*, and *Strychnos dysophylla*. They describe the plant in the wild as a shrub or a 13-foot tree, the trunk 3 inches in diameter, the bark dark and rough, and the branches brittle. Peter describes the "flowers" (on no. 8481) as "green and lilac" and the "Zweige brütig". He also states that the plant "steht immer in Gestrupp, nie allein" and that it differs from *C. kissakense* in its short calyx, shorter and narrower leaves, and shorter internodes, but is obviously related to that species -- his no. 8481 is entirely leafless.

Clerodendrum makanjanum has been encountered at 700 m. altitude, in flower in February and March. The only vernacular name recorded for it is "munyludeka". The plant is said to be eaten by elephants and to be used by natives in the treatment of epilepsy. A key to help distinguish it from other Kenyan species will be found under *C. discolor* (Klotzsch) Vatke in the present series of notes [59: 259--260].

Greenway (1969) cites from Kenya: Greenway 9545, Ossent 106, and Polhill & Paulo 470.

The Barbosa 2473 & 2505, Creek M.117, Hardy 973, Mendonga 902 & 1212, Meeuse 9190, Phillips 2919, Rogers 19251, and Torre & Paiva 2019, 9356, 9448, & 9574, distributed as *C. makanjanum*, are probably all *C. wildii* Mold.

Citations: TANZANIA: Tanganyika: Mathias & Taylor A.145 (E--1986690); Peter 8391 [O.III.35] (B), 8408 [O.III.36] (B, Ld), 8443 [O.III.38] (B), 8481 [O.III.39] (B), 9377 [O.III.63] (B).

CLERODENDRUM MANANJARIENSE Mold., Lloydia 13: 208--209. 1950.

Bibliography: Mold., Lloydia 13: 208--209. 1950; E. J. Salisb., Ind. Kew. Suppl. 11: 56. 1953; Mold. in Humbert, Fl. Madag. 174: 155, 240--242, & 268, fig. 39 (4 & 5). 1956; Mold., Résumé 155 & 451. 1959; Mold., Fifth Summ. 1: 260 (1971) and 2: 869. 1971; Mold., Phytol. Mem. 2: 249 & 539. 1980; P. Holmgren & al., Ind. Vasc. Pl. Type Microf. 441. 1985; Mold., Phytologia 58: 190. 1985.

Illustrations: Mold. in Humbert, Fl. Madag. 174: 241, fig. 39 (4 & 5). 1956.

A shrub or small tree, to 4 m. tall; branchlets and twigs slender, obtusely tetragonal, gray, the youngest parts minutely puberulous, the older parts glabrescent; leaf-scars very large and prominent, corky; nodes not annulate; principal internodes 7--20 mm. long; leaves decussate-opposite; petioles very slender, 5--12 mm. long, subglabrate; leafblades membranous, bright-green above, lighter beneath, not nigrescent, elliptic, 1--6 cm. long, 1.8--2.6 cm. wide, apically acuminate, marginally entire, basally acute or acuminate, very obscurely pulverulent-punctate above or glabrate, densely

resinous-punctate beneath; midrib slender, flat above, prominulous beneath; secondaries very slender, 3--8 per side, arcuate-ascending, flat or often obscure above, subprominent beneath; veinlet reticulation rather sparse, indiscernible above, flat beneath; inflorescence axillary and terminal, the cymes aggregated at the tips of the twigs, loosely many-flowered, minutely puberulent throughout; foliaceous bracts absent; bractlets linear-setaceous; pedicels filiform, 2--4 mm. long, puberulous; calyx campanulate, about 2 mm. long and wide, externally obscurely puberulous or glabrate, nigrescent in drying, the rim subtruncate, minutely denticulate or subentire; corolla hypocrateriform, white or pinkish, the tube narrowly cylindrical, 6--8 mm. long, externally minutely pulverulent, the limb about 5 mm. wide; stamens and pistil violet, exerted about 1 cm. from the corolla-mouth; fruiting-calyx and fruit not known.

This endemic species is based on *Perrier 10192* from about 400 m. altitude between Tavy and Savoka, in the vicinity of Mananjary, Madagascar, collected in January of 1913 and deposited in the Paris herbarium. Decary found the plant growing along roadsides in forests, describing it as a small tree, in anthesis in August.

A key to help distinguish this species from other Madagascar taxa in this genus will be found under *C. baronianum* Oliv. in the present series of notes [58: 184--190].

Citations: MADAGASCAR: *Decary 4674* (P); *Perrier 10192* (E--photo of type, F--photo of type, Ld--photo of type, N--isotype, N--photo of type, P--type).

CLERODENDRUM MANDARINORUM Diels, Engl. Bot. Jahrb. 29: 549. [as "*Clerodendron*"]. 1900; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. *Clerod.*] 11. 1936.

Synonymy: *Clerodendron mandarinorum* Diels, Engl. Bot. Jahrb. 29: 549. 1900. *Clerodendron bodinieri* Léveillé, Fedde Repert. Spec. Nov. 9: 325. 1911. *Clerodendron cavaleriei* Léveillé, Feddes Repert. Spec. Nov. 10: 439. 1912. *Clerodendron bodinieri* Léveillé apud Fedde & Schust., Justs Bot. Jahresber. 39 (2): 319. 1913. *Clerodendron bodinieri* var. *cavaleriei* Léveillé, Fl. Kouy-Tchéou 441. 1915. *Clerodendron mandarinorum* Diels apud P'ei, Sinensia 2: 75. 1932.

Bibliography: Diels, Engl. Bot. Jahrb. 29: 549. 1900; K. Schum., Justs Bot. Jahresber. 28 (1): 495. 1900; Diels, Fl. Cent.-China 549. 1902; Thiselt.-Dyer, Ind. Kew. Suppl. 2: 94. 1904; Léveillé, Feddes Repert. Spec. Nov. 9: 325 (1911) and 10: 439. 1912; Fedde & Schust., Justs Bot. Jahresber. 39 (2): 319 (1913) and 40 (2): 334. 1915; Léveillé, Fl. Kouy-Tchéou 441. 1915; Rehd. in Sarg., Pl. Wils. 3: 375. 1916; Léveillé, Cat. Pl. Yun-Nan 277. 1917; P'ei, Mem. Sci. Soc. China 1 (3): 124 & 145--147. 1932; P'ei, Sinensia 2: 75. 1932; Rehd., Journ. Arnold Arb. 15: 325--326. 1934; Dop in Lecomte, Fl. Gen. Indo-chine 4: 852 & 875--876. 1935; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. *Clerod.*] 11. 1936; Rehd., Journ. Arnold Arb. 18: 286. 1937; Mold., Geogr. Distrib. Avicenn. 37. 1939; Mold., Prelim. Alph. List Inv. Names 21. 1940; Mold., Alph. List Inv. Names 19. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 56, 57, 59, 73, 89, & 90. 1942; P'ei, Bot. Bull. Acad. Sin. 1: 6. 1947; H. N. & A.

L. Mold., Pl. Life 2: 53. 1948; Mold., Alph. List Cit. 4: 1136. 1949; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 131, 136, 159, 180, & 182. 1949; Mold., Résumé 169, 175, 216, 266, 448, & 451. 1959; Wang, Forests China 111. 1961; Mold., Resume Suppl. 15: 18. 1967; El-Gazzar & Wats., New Phytol. 69: 459, 483, & 485. 1970; Mold., Fifth Summ. 1: 288, 300, 359, & 450 (1971) and 2: 869. 1971; El-Gazzar, Egypt. Journ. Bot. 17: 75 & 78. 1974; Hu, Journ. Arnold Arb. 61: 87. 1980; Lauener, Notes Roy. Bot. Gard. Edinb. 38: 484. 1980; Mold., Phytol. Mem. 2: 277, 291, 350, & 539. 1980; Mold., Phytologia 60: 142 & 181. 1986.

A shrub or small tree, 6--15 m. tall; trunk to 30 cm. in circumference, 15--24 cm. in diameter at breast height; bark gray or light-gray, smooth; branches subtetragonal or terete, lightly and softly velutinous-pilose with tawny-gray or golden-fulvous hair; leaves decussate-opposite; petioles elongate, 3--10 cm. long, velutinous; leafblades broad, chartaceous, oval or broadly ovate, 15--23 cm. long, 7--14 cm. wide, apically acutely acuminate or caudate, marginally entire, basally truncate or subcordate, pale-greenish, sparsely brown-pilose or pilosulous above, densely cinereous-pilose or -pubescent to -tomentose beneath; venation slightly prominulous beneath; secondaries 3--5 per side, ascending, almost straight, slightly prominulous; tertiaries transverse, subparallel; veinlet reticulation invisible; inflorescence terminal, panicleate, very broad, 20--35 cm. long, 20--30 cm. wide, divaricately 3-, 5-, or 7-branched from the base, cinereous-pilose or -villose throughout, the corymbs loose-flowered; pedicels 1--2 mm. long, with 2 minute bracteoles; buds green; flowers inconspicuous, fragrant; calyx externally pilose, during anthesis 3--4 mm. long and 2.5 mm. wide, divided almost to the middle, the lobes 5, lanceolate, slender, elongate, apically subulate-acuminate, about as long as the tube; corolla white, its tube slender, 10--11 mm. long, about 3 times as long as the lobes, subglabrous, the limb 5-lobed, the lobes oblong-elliptic, 3 mm. long, 1.5 mm. wide, apically obtuse, marginally becoming undulate, dorsally pilosulous; stamens finally long-exserted, surpassing the corolla-mouth by about 10 mm., inserted slightly below the corolla-mouth; anthers oblong; fruiting-calyx enlarged, 6 mm. long, 12 mm. wide, red or reddish, irregularly split, reflexed; ovary glabrous; style equaling the stamens; fruit drupaceous, composed of 2 pyrenes, generally enveloped by the accrescent fruiting-calyx, at first green, later red, finally bluish-black or black.

This species is based on *Rosthorn* 676 from the high forest at Pên-Sha-Ai, San-ch'uan, Szechuan, China, deposited in the Berlin herbarium, now destroyed. Diels (1900) comments that this species is "Von den tropisch-indischen Arten mit Terminal-Rispe leicht durch die Gestalt des Laubes und der Inflorescenz und besonders durch die pfriemlichen Kelchzipfel zu unterscheiden."

Clerodendron bodinieri was based on *Herb. Bodinier* 1721, comprising material collected by L. Martin in the vicinity of Gan-pin, Kweichow, on July 27, 1897, and material collected by C. Martin at Kouy-yang "le long des ramparts et devant la chapelle N. D. de Liesse" on August 2, 1899, and on *Esquirol* 788 from Tchéou-pao-tong,

Kweichow, collected on July 23, 1905; *C. cavaleriei* is based on *Cavalerie* 70 & 167, collected at Pin-fa, Kweichow, on July 19 and August 12, 1902.

Collectors have found *C. mandarinorum* growing in open woods and at the edges of mixed woods, in partial shade along streamsides, on open hillsides, and on brushy slopes, from 450 to 1600 m. altitude, in flower from June to September and in November, and in fruit in August and October. Wang encountered it in the hills of western Hupeh in association with *Metasequoia*. A vernacular name recorded for it is "ch'ou mao tan shu".

The corollas are described as having been "white" on *Chow* 945, *Esquirol* 3722, *Henry* 9026, *Herb. Bodinier* 1721, and *Tsiang* 8528, "white shading purplish on unfolding" on *Ching* 6675, and "greenish" on *Tsiang* 5387.

On *Tsiang* 8528 some of the flowers are insect-galled, quite abnormal and very tubular in form. Ching describes the leafblades as "glaucous" beneath: he speaks of the species as a common tree in Kwangsi, "quite pretty" when in flower. A bark sample is included on the Steward, Chiao, & Cheo collection cited below.

P'ei (1947) reports that the plant is highly valued by native herbalists for its medicinal properties in the treatment of rheumatism.

Keys to help distinguish *C. mandarinorum* from other Chinese species will be found under *C. henryi* P'ei in the present series of notes [60: 180--181] and from other Indochinese taxa under *C. hahnianum* Dop [60: 141--143].

Fedde & Schuster (1913) cite *Cavalerie* 1095, *Martin* 2365, and *Martin & Bodinier* 1996 from China; Rehder (1934) cites *Cavalerie* 70 & 167, *Esquirol* 788 & 3722, *Handel-Mazzetti* 10884, *C. & L. Martin* in *Herb. Bodinier* 1721, *Steward, Chiao, & Cheo* 730, and *Tsiang* 7374 & 8528, all from Kweichow, China. Dop (1935) cites unnumbered Eberhardt and Pételot collections from Tonkin, Vietnam. P'ei (1947) records the species from Szechuan, and in his 1932 work he cites *Wilson* 425 & 1587 from Hupeh; unnumbered Bock, *Esquirol*, and Rosthorn collections from Szechuan; *Mell* 412 and *Ying* 1238 & 1395 from Kwangtung; and *Esquirol* 3722, *Handel-Mazzetti* 2144, *Henry* 9026 & 9026a, and *Martin* 1721 from Kweichow. He comments that "This species differs from its allies in its slender elongated calyx-lobes, and its terminal cyme which divides from the base into three, five or seven primary divaricate branches. The types of both of Léveillé's species which I have seen at the Herbarium [of the] Arnold Arboretum, agree very well with the characters of *Clerodendron mandarinorum* Diels, and with the Henry's specimens from Yunnan. The size of the leaves of this species varies very much, from few centimeters up to 33 cm. long, 20 cm. wide. The leaf is usually pilose but *Henry's* 9026 and *Wilson, Veitch Exped.* 1587 have much denser pubescence and smaller leaves. The axis of the inflorescence is very short about 1.5 cm. in length, the calyx is reflexed and irregularly split in fruit. The Drup [sic] is bluish-black, with few selate [sic] glands, usually of the vas [sic] of the elongated teeth."

Leveille's original (1911) description of *C. bodinieri* is: "Arbor; ramuli indumento fulvo-aureo vestiti, teretes; folia cordiformis, ad basim cordate vel truncata; ad apicem caudato-acuminata integerrima, utrinque subtus praesertim flavido-viridia reticulata; usque ad 35 cm. longa (petiolo 10 cm. longo), et 15 cm. lata supra pilosula subtus tomentosis; inflorescentia latissime et decomposita corymbosa albido-villosa; dentibus calycinis albis corollae albae concoloribus, subulatis, tubum aequantibus; corollae lobis obtusis reflexis; stamina exserta; antheris oblongis." His original (1912) description of *C. cavaleriei* is: "Arbor 6--8 m. alta; ramuli pubescentes; folia obovata, 8--15 x 5--7 cm., supra atroviridia glabrata subtus albescentia et molliter villosa petiolata; flores latissime 15--25 cm. composita, albi, odoratissime; inflorescentia et calyces densissime albido-pubescentes; dentes calycini filiformes; corolla pubescens lobis ovatis, obtusissimis; stamina longe exserta, antheris ovatis, stylum superantia calyx marcescens; nuculae nigrae pisiformicae." It should be noted that in the former description he speaks of the corolla-lobes being equal in length to the corolla-tube and the calyx with white subulate teeth -- in the latter description he speaks of obovate leafblades. These characters do not fit those seen in typical *C. mandarinorum*.

Material of *C. mandarinorum* has been misidentified and distributed in some herbaria as *C. canescens* Wall.

Citations: CHINA: Hupeh: Chow 945 (N); Hwa 40 (Ca--753263); E. H. Wilson 425 (Gg--32031, Gg--32032, Gg--32033, Gg--32034, Ph, W--777039, W--777049), 1587 (N). Kwangsi: Ching 6675 (N), 7358 (N). Kwangtung: Ying 1238 (Ca--359896). Kweichow: Steward, Chiao, & Cheo 730 (N, S); Tsiang 4651 (Ca--480440), 5387 (Bz--20024, Mu), 5572 (Mu), 7374 (N, S), 8528 (N, S, W--1575062). Yunnan: A. Henry 9026 (N, W--456662). VIETNAM: Tonkin: Pételot 5086 (N). CULTIVATED: Massachusetts: E. H. Wilson 425 (A, Ld--photo, N--photo, W--photo).

CLERODENDRUM MANDRARENSE Mold., Lloydia 13: 209--210, 1950.

Bibliography: Mold., Lloydia 13: 209--210, 1950; E. J. Salisb., Ind. Kew. Suppl. 11: 56, 1953; Mold. in Humbert, Fl. Madag. 174: 151, 199, 201--202, & 268, fig. 32 (5), 1956; Mold., Résumé 155 & 451, 1959; Mold., Fifth Summ. 1: 260 (1971) and 2: 869, 1971; Mold., Phytol. Mem. 2: 249 & 539, 1980; Mold., Phytologia 58: 187, 1985.

Illustrations: Mold. in Humbert, Fl. Madag. 174: 199, fig. 32 (5), 1956.

A shrub; branches and twigs very slender, grayish, obtusely tetragonal, glabrous, lenticellate, often compressed; nodes not annulate; principal internodes 1--5.5 cm. long; leaves decussate-opposite; petioles slender, 3--6 mm. long, glabrous, flattened and canaliculate above; leafblades chartaceous, rather firm in texture, uniformly bright-green and shiny on both surfaces, elliptic, 5--9 cm. long, 1.7--4 cm. wide, apically acuminate, marginally entire, basally mostly acute, glabrous on both surfaces; midrib slender, prominulous above, prominent beneath; secondaries slender, 5--7 per side, irregular, often indistinct from the veinlet reticulation,

prominulous above, prominent beneath, divaricate or arcuate-ascending, joined in many loops near the margins; veinlet reticulation abundant, conspicuous, prominulous on both surfaces; inflorescence apparently terminal or in the uppermost leaf-axils, 1- or 2-flowered; pedicels about 15 mm. long, amplate upwards, often curvate; bracts and bractlets obsolete; calyx broadly campanulate, chartaceous, about 3.5 cm. long and to 2 cm. wide, longitudinally venose, glabrous, shiny, the rim 5-lobed, the lobes ovate-triangular, 6--7 mm. long, apically attenuate-acute; corolla infundibular, the tube about equaling the calyx in length and about 15 mm. wide, externally glabrous, the limb about 3 cm. wide when fully expanded; fruiting-calyx and fruit not known.

This endemic species is based on *Humbert 6630ter* from a forest on gneiss laterite on the slopes and summit of Marosoui, at 1000--1400 m. altitude, in the upper basin of the Mandrare River, in southeastern Madagascar, collected on November 14 or 15, 1928, and deposited in the Paris herbarium.

A key to help distinguish this species from other Madagascar taxa in this genus will be found under *C. baronianum* Oliv. in the present series of notes [58: 184--190].

Citations: MADAGASCAR: *Garnier 118* (N, P); *Humbert 6630ter* (E--photo of type, F--photo of type, Ld--photo of type, N--photo of type, P--type).

CLERODENDRUM MANETTI Visiani, Sem. Hort. Patav. 2: 20, pl. 4 [as "*Clerodendron*"]. 1848; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 91 & 94. 1936.

Synonymy: *Clerodendron splendens* Manetti, Cat. Pl. Hort. Modic. Suppl. 2: 9. 1842 [not *Clerodendron splendens* G. Don, 1893, nor Hehl., 1963, nor Hort., 1877, nor Gaertn., 1968, nor (Thunb.) G. Don, 1968, nor *Clerodendrum splendens* G. Don, 1824]. *Clerodendron manetti* Visiani, Sem. Hort. Patav. 2: 20, pl. 3. 1848. *Clerodendron manettii* Vis. apud H. J. Lam, Verbenac. Malay. Arch. 320. 1919.

Bibliography: Manetti, Cat. Pl. Hort. Modic. Suppl. 2: 9. 1842; Visiani, Sem. Hort. Patav. 2: 20, pl. 4. 1848; Visiani, Revis. Pl. Min. Cognit. Hort. Patav. 1855; Schlecht., Bot. Zeit. 14: 477. 1856; Visiani, Ill. Piant. Orto Padova 3: 20, pl. 3, fig. 2 a--d. 1856; Visiani, Mem. Istit. Veneto 6: pl. 3. 1856; C. Muell. in Walp., Ann. Bot. Syst. 5: 710. 1860; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 561. 1893; J. G. Baker in Thiselt-Dyer, Fl. Trop. Afr. 5: 301. 1900; H. J. Lam, Verbenac. Malay. Arch. 320 & 364. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 95, 109, & ix. 1921; Stapf, Ind. Lond. 2: 239. 1930; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 91 & 94. 1936; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 72 & 90. 1942; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 561. 1946; H. N. & A. L. Mold., Pl. Life 2: 71. 1948; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 159 & 182. 1949; Mold., Résumé 216 & 451. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 561. 1960; Mold., Fifth Summ. 1: 259 (1971) and 2: 869, 1971; Mold., Phytol. Mem. 2: 350 & 539. 1980; Mold., Phytologia 50: 259 (1982) and 58: 297 & 298. 1985. [to be continued]